REMARKS

This Amendment, filed in reply to the Office Action dated May 24, 2007, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-20 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 103

Claims 1-6, 8-13 and 17-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano (U.S. Patent No. 5,359,513) in view of Jatko ("Nonlinear Filter Derived From Topological Image Features," SPIE Vol. 1295 Real-Time Image Processing II, 1990).

Claims 7 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Jatko as applied to claims 1-4 and 8-11 and further in view of Doi.

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over combination of Kano, Jatko and Li (U.S. Patent No. 6,594,378).

The Examiner's basic rejection remains the same as in prior Office Actions. To expedite prosecution of this case, Applicant amends independent claims 1 and 8 to include the features of 2-3 and 9-10, respectively. Applicant submits that the features of intervening claims 2 and 9 would include embodiments where the difference information is not necessarily decreased but the artifacts are decreased relative to the difference information, as indicated in the record to date. Though the Examiner has rejected claims 2-3 and 9-10 over Kano and Jatko, Applicant respectfully submits the following arguments in traversal of the rejections.

Applicant's invention relates to a method to reduce the appearance of artifacts relative to the appearance of actual image differences between two images taken in a temporal sequence. The artifact may be attributable to image misregistration, for example. In order to mitigate the

appearance of the artifacts, the present invention employs a morphological process using structuring elements that are larger than the artifacts while smaller than the actual difference.

The Examiner apparently concedes that Kano fails to teach this feature and cites Jatko to make up for the deficiency. In this regard, the Examiner refers to the discussion at pages 12-14 of Jatko. The cited portion of Jatko teaches erosion and dilation of a difference image using a 3 x 3 kernel. The output pixel (for erosion) comprises the minimum value of the convolution, and the output pixel for dilation comprises the maximum value of a convolution. Fig. 3 illustrates different convolution results based on kernel size. Jatko operates based on a weighting function, which tapers from a minimum under a condition when an edge is detected at an edge position and becomes increased when the certainty of the likelihood of an edge becomes unknown. See Fig. 2 (w(x)), for example. Jatko teaches that larger kernels provide a better approximation for the weighting function for purposes of edge extraction. Page 13, description of Fig. 3. Fig. 4 illustrates two flaws, separated by what the Examiner identifies as an elongation (white portion) and a "square" shaped artifact in the bottom left corner. See Office Action, page 5, lines 15-16. See Fig. 4, first image of sequence. The flaw corresponds to the actual difference between an image and a reference.

To the extent that the Examiner relies on Fig. 4 to teach an "elongated" artifact, the Examiner must be relying on the white elongation between the two larger flaws. However, because the elongation runs the width of the darker "flaw" portions, relative kernel size of the morphological structure need not be smaller than the actual difference (i.e., the image flaw) as claimed. This is because in Fig. 4, the actual flaws are coextensive in width with the purported elongation (artifact). Because the Examiner apparently agrees that Kano teaches a rectangular kernel (see Office Action, page 5, lines 1-14), the rectangular kernel as applied to the elongation

would be at least just as wide (and long) as the actual differences (e.g. the two flaws). Therefore, Applicant submits that the Examiner's rejections of amended claims 1 and 8 are not supportable.

On the other hand, to the extent that the Examiner relies on the small dark square-shaped dot to be the artifact, it is clear that Jatko cannot meet the claim requirements of claims 18 or 20, which describe the artifact as elongated. The Examiner cannot consistently maintain the rejection of amended claims 1 and 8 and also claims 18 and 20. At least one set of the claims should be deemed allowable.

As a final matter, because Jatko describes that larger kernels better approximate the weighting function, and that the weighting function helps distinguish registered edges from artifacts, Jatko teaches away from using kernels as described by claims 1 and 8 where the morphological structure is small relative to the image difference. For all of the above reasons, claims 1 and 8 should be deemed allowable.

The remaining claims are allowable based on their dependency.

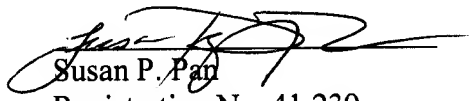
The remaining references of Doi and Li do not make up for the above deficiencies of Kano and Jatko.

Applicant adds claims 21-22 to describe features of the invention more particularly.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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